



Sanitaire[®] Bioloop[®] Advanced Oxidation Ditch

UP TO 50% ENERGY SAVINGS, PLUS FLEXIBILITY AND SIMPLICITY



SANITAIRE

a xylem brand

The push for efficiency

The Sanitaire® Bioloop® oxidation ditch can cut energy costs by over 50% compared to conventional technology.

Your reliable process solution

The Sanitaire Bioloop oxidation ditch process effectively removes total nitrogen and total phosphorus. Our experienced design team can put together an optimized, flexible solution suited to your current and future treatment needs—without the “black box” approach. Best of all, the process comes standard with all the long-term support you’ve come to expect from Sanitaire and can be provided with a process performance guarantee.

Reduced installation and operational costs

Bioloop was specifically designed to reduce installation costs. With its simple tank construction, it doesn’t require extensive load-bearing platforms and walkways. Motors contained in the blower area reduce electrical installation costs and the tank depth is not limited by a mechanical aerator/mixing system. Using deeper tanks which provide for optimal diffused aeration transfer efficiency, system footprint is reduced.

Simplified, flexible process

Separating the anaerobic, anoxic and aerobic zones with variable recycle flows allows flexibility to accomplish reliable treatment including nitrogen and phosphorus removal. Gentle mixing without excessive velocities ensures optimal biological floc formation. Standby air is provided so that even with one blower out of service, full treatment capacity is maintained.

Applications and configurations

- New greenfield installations
- Upgrade of existing mechanically aerated oxidation ditches
- Retrofit applications – can install aeration systems in wet tanks
- Municipal or industrial applications
- Biological nutrient removal applications



Introducing the new standard: Sanitaire Bioloop

Backed by more than four decades of experience, Sanitaire’s ultra-efficient Bioloop process is a huge leap forward in biological treatment systems. Combining SANITAIRE® diffused aeration, Flygt submersible mixing and overall process application, as well as instrumentation and process control from Sanitaire and YSI in both new and retrofit applications, this solution delivers up to 50% better energy efficiency while remaining adaptable to a wide range of flow and loading conditions.

There are thousands of traditional oxidation ditch-activated sludge treatment installations worldwide. These systems are usually complete mix systems with single or multiple process loops, and they typically utilize surface aeration for mixing and oxygen delivery. In the past, the traditional oxidation ditch offered sufficient treatment at the expense of energy efficiency and lack of independent aeration and mixing. Today, owners, consultants, and contractors are demanding energy efficient treatment, advanced control systems, and the flexibility to meet increasingly stringent effluent requirements.. These challenges are now met with the Bioloop.

Bioloop[®] oxidation ditch benefits

Independent mixing and aeration

Mechanically aerated ditches use surface mixing, requiring high horizontal velocity to maintain solids suspension. This consumes excessive power at low-flow conditions. Bioloop uses dedicated mixing and aeration devices to provide flexibility that mechanical aeration/mixing systems can't match. Bioloop gently mixes from the bottom, utilizing full floor aeration coverage.

Mechanical aeration systems utilize intensive energy at the air/water interface to drive the air into the water. Bioloop's diffused aeration offers reduced aerosols, less icing and misting and it significantly reduces odors.

Automated operation

We started with an intelligent, optimized process design backed by over 40 years of deep understanding in process, aeration and mixing. Then, we match the precise amount of energy consumption to the dynamic treatment need. This ensures you use just the right amount of energy. In addition, automated sludge age control can be provided via the Sanitaire SIMS SRT control system, putting you in real-time operational control.

Energy efficiency

Bioloop delivers up to 50% energy savings compared to mechanical systems. Achieving 7-9 lb. O₂/bHP-hr compared to 3.0-3.5 lb. O₂/BHP-hr for mechanical aeration systems. Coupled with efficient Flygt submersible mixing efficiency, Bioloop addresses your energy efficiency concerns.

Simplified maintenance

Bioloop utilizes non-corrosive, rugged in-basin components; Sanitaire[®] diffused aeration systems and Flygt submersible mixers and pumps are installed and proven at thousands of treatment plants worldwide. Blower systems can be located inside a building, minimizing outside maintenance requirements. The aeration system is easy to install and maintain, eliminating the need for heavy-duty cranes for service.

Criteria to consider:	Bioloop	Other Ditch Systems
Energy Efficient: Up to 50% energy savings over mechanically aerated systems. A combination of diffused aeration and horizontal mixing efficiency advantage.	☑	☐
Independent Mixing and Aeration: Blowers can be contained in sound enclosures, mixers are submerged.	☑	☐
Flexible control systems.	☑	☐
Reduced, Consolidated Maintenance: centralized blowers offer single maintenance point, corrosion resistant in-basin components. No bearings couplings or on-basin drives to maintain.	☑	☐
Backup Aeration Capacity: 100% spare blower provided. Keeps you up and running during maintenance.	☑	☐
Reduced Cost: fewer electrical distribution costs, reduced concrete cost.	☑	☐
Market leader in Aeration and Mixing: proven, predictable design capability.	☑	☐

Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

We're 12,000 people unified in a common purpose: creating innovative solutions to meet our world's water needs. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. We move, treat, analyze, and return water to the environment, and we help people use water efficiently, in their homes, buildings, factories and farms. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise, backed by a legacy of innovation.

For more information on how Xylem can help you, go to www.xyleminc.com



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